FM 17-80

WAR DEPARTMENT FIELD MANUAL

ARMORED MEDICAL UNITS

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WAR DEPARTMENT · 30 AUGUST 1944

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CHAPTER 1

GENERAL

Section I. CHARACTERISTICS OF ARMORED MEDICAL UNITS

1. GENERAL. **a.** This manual is designed as a supplement to FM 8–10. Herein are contained only those subjects and procedures peculiar to armored medical units.

b. Armored medical organizations are specially equipped and trained for operations with armored units. (See fig. 1.)

(1) The medical detachment of the tank battalion moves in vehicles in close support behind the tank companies, and directs its principal efforts at emergency treatment, either in vehicles or on the battlefield. All casualties are promptly evacuated to battalion aid stations or to casualty collecting points established along the axis of evacuation.

(2) Battalion aid stations wherever established are closed when the attack starts and vehicles thereof are distributed to the individual companies to follow them during the attack. Aid station vehicles remain within sight distance of the attacking troops. For establishment of battalion aid stations, see paragraph 15.

(3) The principal effort of the medical battalion is directed toward the prompt evacuation of casualties from battalion aid stations or casualty collecting points to the clearing stations established by the medical companies. These clearing stations reflect the characteristic high mobility of armor; they are organized and equipped with extremely mobile

For military terms not defined in this manual see TM 20–205.

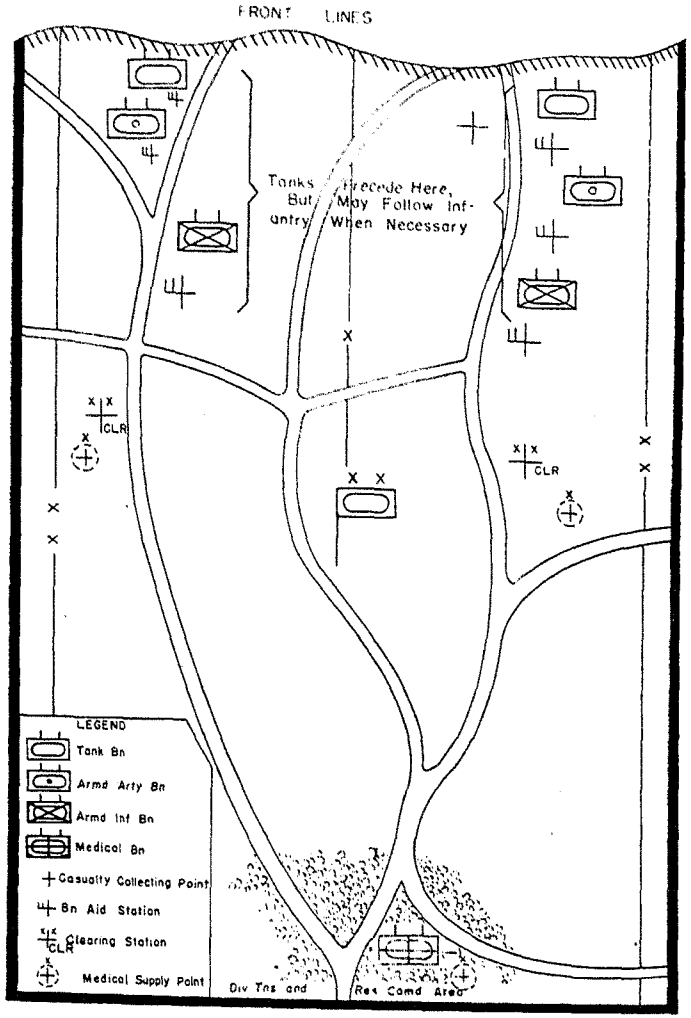


Figure 1. Medical installations of the armored division—schematic.

surgical trucks, and are capable of treating casualties in a short time after movement has ceased.

c. Armored medical units are closely supported by higher echelons of medical service to preserve their mobility, since accumulated casualties soon render medical units immobile.

Section II. MEDICAL SERVICE OF ARMORED GROUP AND SEPARATE ARMORED BATTALION

2. GENERAL. Separate tank battalions, armored infantry battalions and armored field artillery battalions are identical with those which are included in the armored division. They are self-sufficient administratively and tactically. Each includes a medical detachment. Separate battalions may be organized into armored groups for purposes of training and tactical control.

3. METHODS OF ATTACHMENT. **a.** Orders designating attachment of a group or separate battalion may be either oral or written. They emanate from higher headquarters.

b. Upon notification of such attachment, it is the responsibility of the surgeons concerned to establish personal contact with the senior medical officer of the unit to which attached.

c. Tentative plans are made for the medical support of attached troops based upon the anticipated employment of those troops. It is essential that the surgeon of the attached unit know the location, strength, and composition of medical units which support and supply his own medical service.

d. Upon learning of the tactical employment of his unit, the surgeon informs the commanding officer of the supporting medical unit of the axis of evacuation and probable locations of aid stations and casualty collecting points to be used in the anticipated tactical operation.

CHAPTER 2

MEDICAL SERVICE OF ARMORED DIVISION

Section I. GENERAL

4. ORGANIZATION. **a.** The medical service of the armored division consists of all Medical Department personnel assigned to the armored division under existing Tables of Organization, functionally grouped as follows:

(1) *Division surgeon's office.* See paragraph 9.

(2) *Medical detachments.* These detachments provide first echelon medical service for the division and furnish the medical service of the organization to which attached. (See FM 8–10.)

(3) *Armored medical battalion.* This divisional medical organization provides second echelon medical service for the division and serves the division as a whole.

b. For organization of the armored division medical service, see figure 2.

5. STANDING OPERATING PROCEDURE. **a.** The armored division operates tactically in two or more combat commands. Combat commands are formed for a particular operation. Normally an armored medical company is included in each of the two combat commands and a part or all of the Third Company in the reserve command.

b. Standing operating procedures are essential in the performance of routine administrative and tactical functions. The medical detachments conform to the standing operating procedure of the organization to which attached. The

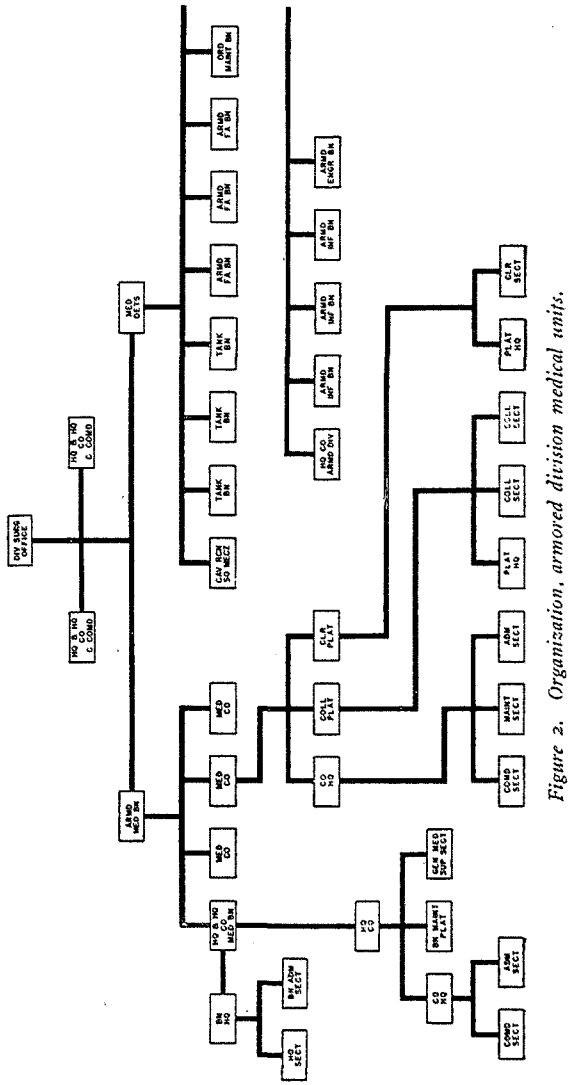


Figure 2. Organization, armored division medical units.

medical battalion formulates its own standing operating procedure to conform to the basic policies established by the division. Included are routine procedures adopted for tactical marches, entrance into, occupation of, and egress from bivouac areas, and actions to be taken by separate units and key individuals following the alerting of the organization.

c. Medical units, both attached and assigned, follow procedures best suited for the medical support of their individual unit. During combat, because of rapidly changing tactical situations, it may be found impractical to follow a predetermined plan. The employment of the medical detachments and the medical battalion is kept flexible and within control so that unforeseen tactical developments may be dealt with promptly.

6. PRINCIPLES OF EMPLOYMENT (see FM 8–10). Because of the mobility of armored units, the following principles are observed by supporting medical organizations:

a. All medical units and personnel maintain close contact with the organizations or units they serve.

b. Liaison, reconnaissance, and the flow of information to higher and lower echelons are continuous.

c. A reserve of personnel and supplies is maintained by all medical unit commanders. Personnel held in reserve may be used to augment other units or installations, provided that such reserves may be quickly assembled and committed for their primary function.

d. Close coordination is maintained between the first and second echelons of the division medical service.

e. The mobility of medical units must not be restricted by excess supplies, equipment, or the unnecessary retention of wounded in the division medical installations.

f. Casualties in all echelons are quickly evacuated by the supporting medical units responsible therefor.

g. Measures for temporary care of casualties pending their evacuation are provided and adequate facilities for emergency surgical life-saving procedures are available well forward.

h. Dispersal of medical personnel by attachment in undue numbers to small independently acting combat elements is avoided.

i. Medical officers in command must be acquainted with the tactical situation and informed of the plans of their commanding officers.

j. In order to have a correct tactical conception of the situation, it is essential that the organization surgeon be familiar with the organization and tactics of the unit to which he is assigned.

7. NECESSITY FOR CLOSE SUPPORT OF ARMORED DIVISION MEDICAL SERVICE. Close support of the armored division medical service by higher medical echelons is essential. There is no establishment of a single large division clearing station 10 or 15 miles behind the front lines. The medical company of the armored medical battalion performs both collecting and clearing functions and may be situated relatively close to the scene of action. Because of its collecting function, it maintains close contact with the medical detachments which it supports. To preserve the mobility of the medical company, army or corps units evacuate each clearing station of the medical battalion promptly and continuously. To accomplish this function, army or corps medical units establish personal liaison with each of the clearing stations to be evacuated. This liaison personnel controls ambulances which evacuate casualties from the clearing stations of the armored division medical service.

8. RELATIONSHIP OF DIVISION SURGEON, MEDICAL BATTALION COMMANDER, AND COMBAT COMMAND SURGEONS.

a. The duties of the division surgeon are prescribed in paragraph 9 and FM 101–5. His relationship with the med-

ical battalion commander and combat command surgeons is that of a staff officer—the representative of the division commander.

b. The medical battalion commander is responsible to the division commander for the training and technical operation of the armored medical battalion and for the division medical supply.

c. The combat command surgeon functions for the combat command as does the division surgeon for the division.

Section II. DIVISION SURGEON

9. DESIGNATION. The senior medical corps officer assigned to a division normally is designated as the division surgeon.

10. STAFF RELATIONSHIP. See FM 8–10 and 101–5.

11. DUTIES AND RESPONSIBILITIES. a. The division surgeon is a special staff officer. His relationship with other staff officers is covered in FM 8–10 and with subordinate units of the division, in FM 101–5. Unit commanders are responsible for all phases of planning, training, and execution of activities of their commands; and directions or instructions must be submitted through proper channels of command, not directly from one special staff officer to the corresponding special staff officer in a subordinate command. The division commander prescribes policies and may delegate within certain prescribed limits, the supervision of certain activities.

b. In addition to the duties prescribed in FM 101–5, the division surgeon—

(1) Makes recommendations for the medical portion of the division standing operating procedure and, within limits prescribed by the commander, supervises its execution.

(2) Recommends the method or methods of employment of the medical battalion and prepares that part of the division field order and the administrative order concerning medical matters.

(3) Within limits prescribed by the division commander, supervises the operation of medical units of the division.

12. DIVISION SURGEON'S OFFICE. a. General. This office is a part of and located with the rear echelon of division headquarters. It is composed of the commissioned and enlisted personnel provided the division surgeon for assistance in his staff functions. Such personnel is attached to the headquarters company, armored division trains. Transportation is provided by the transportation platoon, headquarters company, armored division trains. To carry out their respective functions properly, transportation is allotted to the division surgeon and to the division medical inspector.

b. Functions. (1) Administration of the medical service of the division within the limits prescribed by the division commander.

(2) This office is the administrative agency of the division surgeon to be operated by one of his assistants when he is absent from the office.

(3) This office records the sick and wounded reports and forms which are forwarded by the subordinate medical elements of the division. Records are received, necessary data recorded, and reports consolidated and forwarded as required to the next higher administrative headquarters.

c. Personnel. (1) *Commissioned personnel.* (*a*) *Division surgeon.* See FM 8–10 and 101–5.

(*b*) *Division medical inspector.* See FM 8–10 and AR 40–270.

(*c*) *Division dental surgeon.* See FM 8–10.

(*d*) *Division neuropsychiatrist.* The division neuropsychiatrist, acting for the surgeon, advises the division surgeon on all neuropsychiatric matters. During the training period

he is responsible for the detection, care of, and recommendations for salvage or elimination from the command of actual and potential neuropsychiatric cases. He instructs all officers of the division in the recognition, prevention, and treatment of neuropsychiatric casualties. In the combat zone, the division neuropsychiatrist sorts and clears neuropsychiatric casualties so that the maximum number may be returned to duty.

(*e*) *Office executive.* The duties of this officer are the administration of statistical and sick and wounded procedures of the Medical Department. He supervises the various administrative functions of the division surgeon's office.

(2) *Enlisted personnel.* See FM 8–10.

Section III. MEDICAL DETACHMENT

13. STATUS WITHIN PARENT UNIT. See FM 8–10.

14. ORGANIZATION. **a.** The organization of the medical detachments of the battalions of an armored division varies with the type of armored unit. Medical detachments include a medical officer, several medical noncommissioned officers, and a variable number of surgical and medical technicians, drivers, and litter bearers. In many detachments, a proportion of the surgical technicians and litter bearers is designated as company aid men. The unit equipment is loaded in a trailer which is towed by a vehicle which may be used for the transportation of personnel or casualties. During combat all vehicles are utilized whenever necessary for the transportation of casualties. Each detachment includes one truck, ¼-ton, 4 x 4. It is equipped with an SCR–510 radio set. The channels of this set afford contacts in the battalion command net and the medical group net, serving all medical units of the division. (See fig. 3.)

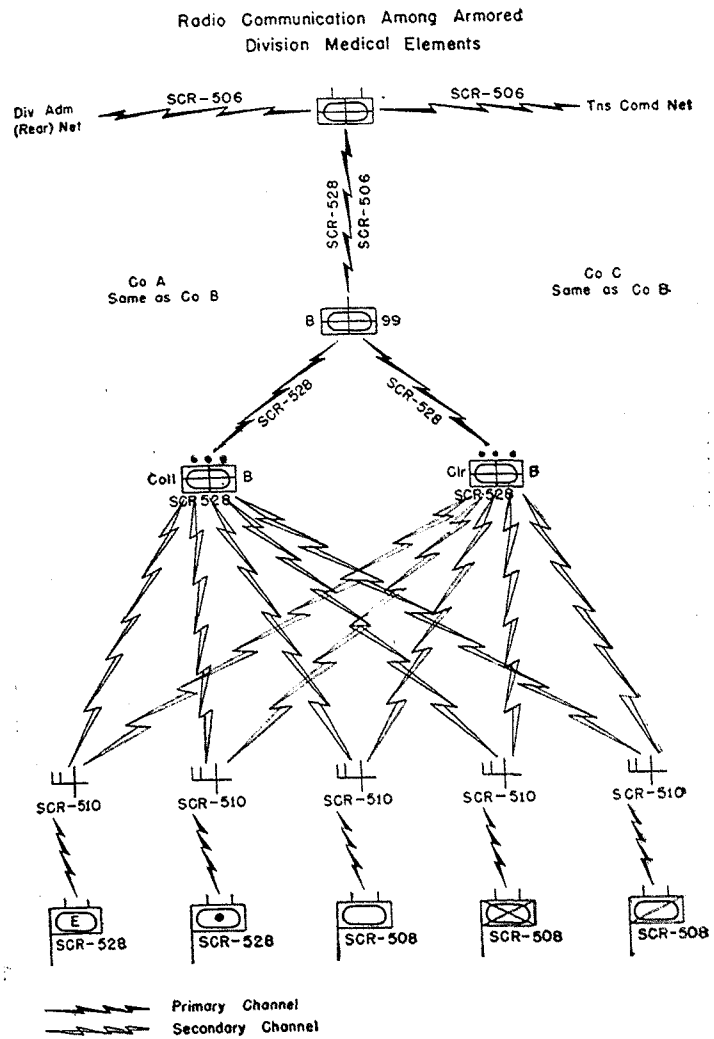


Figure 3. Radio communication among armored division medical units.

b. The equipment of the medical detachments is limited to the instruments, vehicles, drugs, food, blankets, splints, and litters necessary for the emergency care and treatment of casualties. This equipment is considered as combat equipment and the vehicles carrying it travel with the organization combat train. Loading plans are flexible since the disposition of vehicles and of the personnel and equipment transported therein depends ultimately upon the medical plan selected. In view of this, loading plans often require changes.

15. FUNDAMENTALS OF COMBAT EMPLOYMENT.

a. General. The fundamental requirements of aid station sites and the general procedures of operation of the medical detachments of armored units are as outlined in FM 8–10.

(1) Emergency medical treatment and the placing of casualties at battalion aid stations or casualty collecting points, where evacuation by the second echelon of the medical service of the division may be accomplished, are the combat functions of the medical detachment. (See fig. 1.)

(2) The medical detachment should not be encumbered with the helpless wounded at any time any longer than is necessary to make them transportable for evacuation farther to the rear.

(3) All medical detachments are equally as flexible in their organization as the unit served. With deep penetration into hostile territory or wide envelopment, collection and evacuation of casualties are difficult. Under these conditions, battalion aid stations can seldom be established in fixed locations.

(4) Casualties are given first aid by their fellow soldiers from individual first aid packets or from the vehicular first aid kits carried in the combat vehicles. Such casualties may not receive *further* medical attention until arrival at a rallying point or assembly area.

(5) The zone of action of the medical detachment corresponds to the zone of action of the unit it serves. Prior

to combat, the battalion surgeon remains forward with the battalion commander where he can be informed of the plans of the commander, make his estimate of the situation, and properly dispose his personnel.

(6) Attached medical troops usually follow the axis of advance, give emergency treatment where needed, and direct walking wounded to casualty collecting points on the axis of evacuation or to aid stations in the rear. They return slightly wounded personnel to their units, and establish casualty collecting points, along axial lines, for the seriously wounded, where they may be evacuated to clearing stations by ambulances of the supporting medical companies. A casualty collecting point in this sense is a designated point along the axis of evacuation where casualties are collected, pending further evacuation to battalion aid or clearing stations. One or more soldiers of the medical detachment or medical company left in charge of the casualty collecting point administer emergency medical treatment and care for the wounded pending their further evacuation.

(7) The location of these casualty collecting points may be made known to the headquarters of the medical company by previous planning, by liaison agents, by returning ambulances and, where practicable, by radio.

(8) Commanders designate the axis of evacuation in field orders. This information is disseminated so that all troops are informed. Ambulatory casualties may be assisted to this axis for medical attention.

(9) In the tank battalions, the greatest number of casualties is found at the rallying point, since tanks continue with the execution of their mission unless prevented by mechanical failure or inability of the crew to function. If casualties are numerous, the battalion surgeon may set up the battalion aid station at the rallying point. If the battalion is to be immediately recommitted, he may establish a casualty collecting point, leaving behind limited personnel and supplies, pending evacuation of casualties by the supporting medical units.

(10) Medical personnel may be attached to battalion maintenance sections to provide emergency treatment. These are assigned from the battalion medical detachment.

(11) In general, personnel of the medical detachments operate from the detachment ambulance vehicles within a distance consistent with safety from enemy fire. Their functions are prompt removal of litter casualties to battalion aid stations, casualty collecting points, or places of relative safety, the directing and assisting of walking wounded to casualty collecting points, battalion aid stations, or division clearing stations, the searching of the battlefield and areas inaccessible to vehicles for casualties, the administration of emergency medical treatment to such casualties, and the assistance in maintaining contact with the combat unit being supported.

b. Employment of ambulance litter bearer team. To preserve and protect medical personnel and vehicles, ambulance vehicles advance to the rear of the combat unit, at distances governed by the terrain and enemy resistance. Cover and defilade are utilized. Exposure to hostile fire is minimized. Flat open terrain which offers no cover or defilade is avoided. Ridge tops, forward slopes of hills, and sky lines are dangerous terrain for ambulance vehicles. Litter bearers transported in the ambulance carry casualties from exposed areas to the ambulance, which has advanced as far as cover, concealment and hostile activity permit.

c. Employment of battalion aid station (see FM 8–10). (1) The battalion aid station normally is established at rallying points. First echelon medical service is needed immediately at rallying points to care for casualties brought in on combat vehicles. Stations, to the extent necessary to care for the casualties which occur, are established. Location in the vicinity of probable enemy targets is avoided. Ambulance vehicles of the detachment transport casualties to casualty collecting points along the axis of evacuation or, when feasible, transport them to the battalion aid station

site. Provisions are made to advance the battalion aid station as far forward as is practicable.

(2) The above procedure is a method for employment of the armored medical detachment in the attack. Other methods for the collection of casualties may be used. The type of armored unit, its anticipated plan of action, terrain features, and the presence or absence of close second echelon medical support dictate the procedure to be followed. Often the battalion surgeon and the medical company commander plan together the tentative collecting point sites, and the medical company establishes the collecting points. The medical detachment is not required to leave medical supplies and an attendant at each casualty collecting point established. Property exchange is facilitated, eliminating the necessity of the medical company carrying forward the equipment and personnel left behind at casualty collecting points by the medical detachments.

16. LIAISON AND COMMUNICATION. a. Liaison. (1) The establishment and maintenance of adequate and timely liaison is a command responsibility shared by all commissioned officers who command medical units or supervise their tactical employment. Both commissioned and enlisted personnel may be used for this purpose. Assignments are in accordance with the degree of responsibility which the liaison agent must assume. Plans for the employment of liaison personnel are incorporated in the SOP of all medical units.

(2) The unit commander maintains liaison with—

(*a*) Next higher headquarters.

(*b*) All subordinate units.

(3) The division surgeon maintains liaison with—

(*a*) Forward and rear echelons of division headquarters.

(*b*) The medical battalion.

(4) The medical battalion commander maintains liaison with—

(*a*) The command post of the division trains.
(*b*) Headquarters of each combat command.

(5) The medical company commander maintains liaison with the aid stations of the medical detachments.

(6) The combat command surgeon maintains liaison with—

(*a*) The forward echelon of division headquarters.
(*b*) The division surgeon.
(*c*) The command post of the medical battalion.

(7) *Technique.* (*a*) To avoid duplication of liaison personnel at the various command posts of division medical installations, one liaison agent functions for all medical units concerned. The liaison agent dispatched by the division surgeon to the forward echelon of division headquarters may function in addition as liaison agent of the separate combat command surgeons and the medical battalion commander. The procedure is planned in advance and practiced during training.

(*b*) The medical companies may dispatch liaison agents to each of the medical detachments being evacuated, particularly where there is radio silence. Such liaison may be accomplished by means of noncommissioned officers of the collecting platoon, ambulance drivers, and litter bearers.

(*c*) Liaison is maintained between the clearing stations and the medical unit evacuating these installations. Such liaison normally comes from the supporting medical unit. It is active and continuous to prevent immobilization of the clearing stations by accumulated casualties.

b. Communication. (1) Two radio nets are designated for use by the medical service of the armored division. (See fig. 3 and FM 17–70.)

(*a*) *Group medical net (FM).* The group medical net is an FM net which controls all the collecting and clearing platoons of the battalion. Its channel is the primary channel for all FM radios of the medical battalion, and the secondary channel for all medical detachments of combat organizations. Thus, aid stations can communicate directly with second echelon units at will or in prearranged schedule.

(*b*) *Medical battalion command net (CW).* The armored medical battalion employs a designated armored medical battalion command net, a CW net of moderate range, which permits intercommunication of the medical companies and the medical battalion headquarters. The command post of the armored medical battalion is also included by means of CW radio in the trains command net and the division administrative net (rear). For details see figure 3.

(2) Thorough training is given all medical personnel in radio procedure and security. Rigid radio discipline is exercised over medical personnel so that information on number of casualties, identification of units and other data may not be intercepted by the enemy.

17. CHARACTERISTICS AND EMPLOYMENT OF INDIVIDUAL MEDICAL DETACHMENTS. a. Cavalry reconnaissance squadron, mechanized (see FM 2–30). (1) The medical detachment of the reconnaissance squadron is confronted with a difficult problem of medical service. The squadron often operates over a wide front, comparatively isolated from the division proper. Small reconnaissance units operate far in advance of the main body furnishing reconnaissance ahead of and to the flanks of the division. Communication lines other than radio are usually nonexistent and casualties are either treated in place and allowed to continue with the combat vehicles or evacuated to a casualty collecting point accessible to supporting medical troops to the rear.

(2) The location of such casualty collecting points is radioed to the medical detachment at the first opportune moment. Company aid men (surgical technicians) may be attached to the reconnaissance troops of this squadron when it is widely dispersed. Only the major elements of the

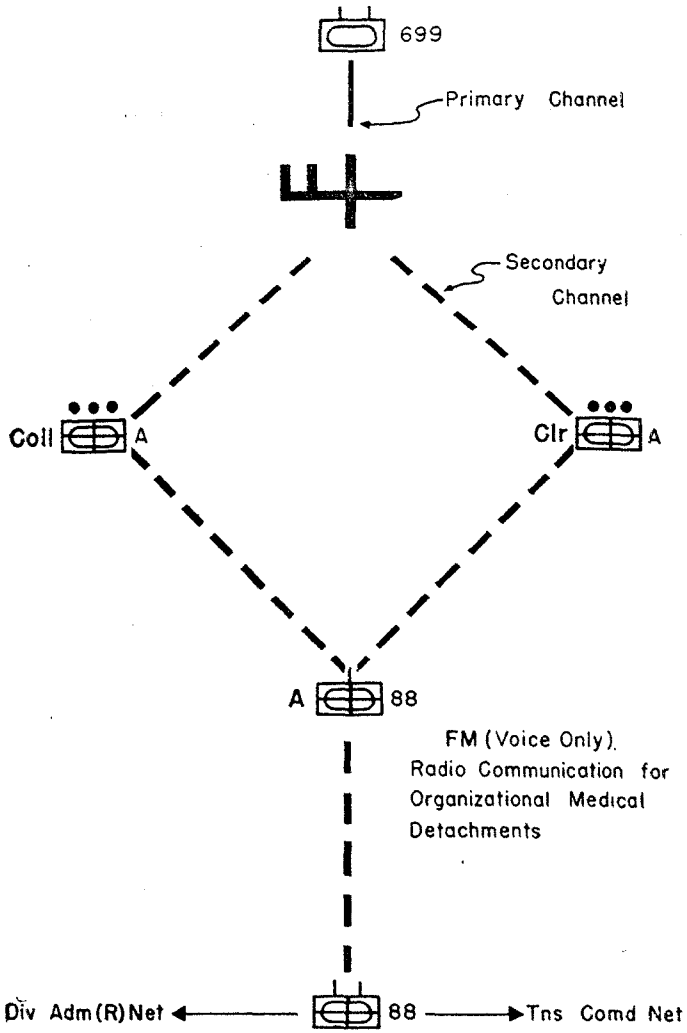


Figure 4. Organizational radio communication, medical.

squadron can be closely supported by the medical detachment. All other personnel seeks incidental medical service or delayed medical service.

b. Tank battalion. (1) The medical detachment of the tank battalion marches with the maintenance section of each march unit. A battalion aid station may be established at the assembly area or located at the attack position, for the ambulance vehicles normally follow the last wave of the assault echelon. A search is made of the entire zone of action of the battalion for stalled vehicles and individual casualties who have abandoned their vehicles. This function may be accomplished in several ways, dependent upon the width of the battalion front, the terrain, and the anticipated enemy resistance.

(2) One method entails the assignment of one or more ambulance vehicles to support each tank company. These vehicles follow their assigned companies at a reasonable distance. This distance depends upon the type of terrain, the degree and nature of enemy resistance, and the degree of dispersal of the tank battalion. Where the battalion front is narrow and the attack is particularly deep, the medical vehicles advance to the rear of the last wave of combat vehicles.

(3) A second method entails dividing the battalion zone of action into two sectors, to the right and left of the axis of evacuation, respectively. Ambulance vehicles advance in each sector, evacuating all casualties within the sector to casualty collecting points on the axis of evacuation, or direct to the battalion aid station, when time permits.

c. Armored infantry battalion. For further details, see FM 17-42.

(1) When the armored infantry battalion operates independent of tanks, the procedure for the collection of casualties is identical with that of the infantry battalion of the rifle regiment. Where a tank battalion and an armored infantry battalion operate jointly, the service of the medical detachments may be combined.

(2) To prevent duplication of medical services, and to promote greater efficiency in the collection and evacuation of casualties with a resulting economy of medical personnel, the battalion surgeons of the units concerned plan in advance the combined medical service of the anticipated operation. The medical detachment of the armored infantry battalion on the march follows in the rear of the march units.

d. Armored field artillery battalion. (1) The medical detachment of the armored field artillery battalion normally functions as a consolidated unit under the close control of the battalion surgeon.

(2) A company aid man (surgical technician) is normally assigned to each of the firing batteries.

(3) The battalion aid station may be located in the vicinity of the fire direction center but at such distance from it as not to be included within any practical enemy target area.

(4) The ambulance vehicles remain near the aid station, being dispatched to the firing batteries upon call. Call for medical assistance may be sent by CW radio to the battalion headquarters, where the message is relayed by FM radio to the battalion surgeon.

(5) As an alternative method, *generally reserved for emergency only,* the firing batteries may contact the fire direction center by FM radio, requesting a message be relayed to the battalion surgeon.

(6) The medical detachment marches near the maintenance section of each march unit.

e. Armored engineer battalion. (1) For complete details, see FM 17–45. Company aid men are attached from the medical detachment to the engineer companies. The remainder of the detachment remains with the headquarters company.

(2) During combat, companies of the engineer battalion may be widely dispersed within the division area by combat command assignment. To render medical support to

each of the engineer companies when they are utilized on separate missions is impossible. The combat command surgeon arranges for necessary medical support for such an attached company, through the surgeon of a tank, infantry, or artillery battalion, or other organization.

(3) Where the bulk of the battalion is employed on the same mission, the battalion surgeon divides the detachment to provide medical support to both the troops committed and to those held in reserve with the headquarters and headquarters company.

(4) The battalion surgeon or the assistant battalion surgeon remains within radio range of the battalion headquarters so as to be able to intercept calls for medical assistance which battalion headquarters may relay from the engineer companies.

f. Headquarters, armored division. (1) This medical detachment marches with and renders first echelon medical service to the forward echelon of division headquarters and headquarters company of the armored division.

(2) The rear echelon of division headquarters, being attached to the headquarters company armored division trains, obtains medical service from the medical detachment of the ordnance maintenance battalion.

g. Ordnance maintenance battalion. (1) The medical detachment of the ordnance maintenance battalion renders medical service to all subordinate elements of the armored division trains except the armored medical battalion.

(2) During combat, dispersal of subordinate elements of the trains command may preclude complete medical service. Where this occurs, units or individuals separated from the medical detachment seek local incidental medical service.

h. Headquarters, combat command. (1) The medical detachment of headquarters and headquarters marches with the maintenance section.

(2) The medical corps officer is the combat command surgeon.

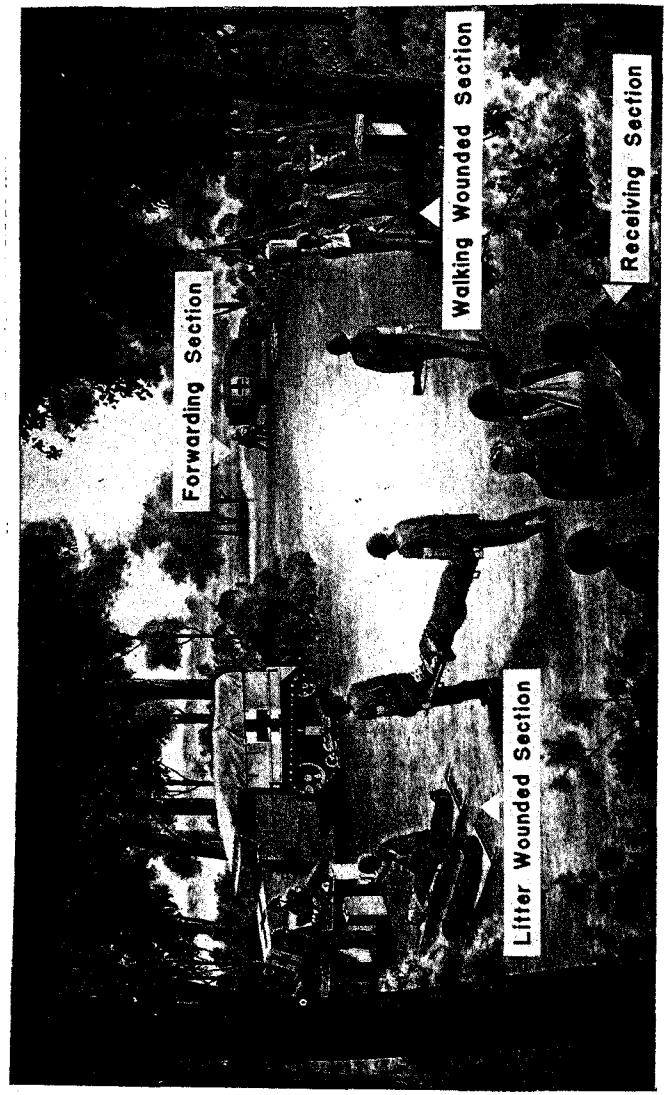


Figure 5. Battalion aid station.

(3) When practicable, the medical detachment of the division headquarters company furnishes medical service to personnel of combat command headquarters. When this is not practicable, the combat command commander through his surgeon designates a medical detachment adjacent to the unit to furnish incidental medical service. If no troops are available in the combat command, the division commander through the division surgeon designates a medical detachment for this purpose.

18. SUPPLY. a. In other than combat situations. (1) The battalion surgeon is responsible for the supply of the medical detachment. He submits to the organization supply officer the requirements of all articles of equipment authorized. The organization supply officer requisitions the property and, upon receipt, issues it to the surgeon.

(2) For further details, see AR 35–6520, FM 8–5, 8–10, and 17–50.

b. In combat. Prior to combat, supply needs are anticipated and timely requisitions are made. The urgency of supply in combat demands both simplicity and flexibility in methods. The medical detachments procure medical supplies by any of the following methods:

(1) By an informal request sent to the medical unit in direct support, usually a medical company. Such supplies are delivered by ambulances which are shuttling forward.

(2) By an informal request sent to the nearest medical supply point. Delivery may be made by ambulance, by transportation of the division medical supply section, by transportation of the medical detachment, or by any combination of these means.

(3) When there is property accountability, nonexpendable property procured in emergencies from agencies other than the organization supply officer is reported to him as soon as practicable so that he may account for it in the prescribed manner.

(4) The system of exchange of medical property evacuated with patients is often difficult to enforce in armored medical units. In a rapidly moving situation, the medical detachments, by leaving casualties at casualty collecting points along the axis of advance, may not have actual contact with the supporting medical company for long periods. The medical detachments are soon depleted of necessary medical property unless steps are taken for their replenishment.

(5) In such instances, the medical detachments may carry excess splints, litters, and blanket sets which have been drawn from the medical company in support.

(6) The radio equipped liaison vehicle of the collecting platoon may function as a property exchange vehicle by contacting the medical detachments in the forward areas on call and executing the necessary property replenishment.

(7) Such a system is followed by both the first and second echelon medical units. This procedure entails thorough cooperation and adequate preplanning by the battalion surgeons, combat command surgeon, and the medical company commanders.

19. STATUS AND FUNCTIONS OF BATTALION SURGEON (see FM 8–10 and 101–5). **a.** During training and prior to combat, the battalion surgeon—

(1) Supervises instruction to all personnel of the battalion in first aid, personal hygiene, sanitation, malaria control, and personal adjustment.

(2) Inspects all personnel for general physical health regularly and directs such care as indicated.

(3) Keeps aware of the state of health of adjacent civilian and military establishments to prevent contact with communicable diseases, and recommends necessary action to the commander.

(4) Initiates and executes surprise but thorough physical inspections of the command as required, such as care of the feet, teeth, and food, and venereal control.

b. The battalion surgeon must keep himself informed of the tactical situation and study the terrain over which the battalion will operate. After having made an estimate of the situation, the battalion surgeon informs his subordinates, the combat command surgeon, and the commanding officer of the supporting medical company of the initial tactical plan of the battalion, including the medical service plan. Future developments affecting the medical service of the battalion are transmitted to these officers.

Section IV. ARMORED MEDICAL BATTALION

20. ORGANIZATION. The armored medical battalion is a flexible, highly mobile unit capable of accompanying combat elements of the armored division. It is composed of a headquarters and headquarters company and three identical medical companies. (See fig. 2.)

21. FUNDAMENTALS OF EMPLOYMENT. a. The medical battalion provides second echelon medical service by the collection, treatment, clearing, and evacuation of the sick and wounded of the division. It is self-contained administratively and technically, having its own maintenance, administrative, and supply organization.

b. Flexibility of the medical battalion is always maintained. The battalion is organized to be responsive to any demand made upon it for reinforcement or support. It can function as a unit, or its several major components may be broken down into lesser elements to support tactical groupings. In combat, usually one medical company supports each combat command. The headquarters and headquarters company of the medical battalion, plus the reserve medical company or companies, normally marches with the division trains in the position designated by the trains commander. The reserve command is supported by elements from the reserve medical company.

c. On a tactical march, casualties are usually carried in the organization ambulances to the bivouac area, from which they are evacuated to rear medical installations by ambulances of the medical companies. Casualties are evacuated from division units by ambulances of the medical battalion supporting the march column. After such treatment as necessary, they are evacuated on call by army or corps to the nearest army or corps medical installation.

d. Ambulances organic in the unit are retained since an attack may be made from march column. The medical company or element supporting a combat command follows it and normally is attached during the march. Casualties may be transferred to organizational ambulances during rest halts. For the support of security elements, detachments of medical troops are taken normally from the reserve medical company.

22. BATTALION HEADQUARTERS. a. Headquarters section. This section is concerned with the command and operations of the battalion and includes the necessary personnel and equipment for command, communication, reconnaissance, and liaison. The message center of the battalion is established by this section. Communication may be maintained through the use of radio, telephone, or vehicular messengers. Ambulances moving on designated routes to forward or rear areas may be used.

(1) *Battalion commander.* (*a*) During the training period, the commander of the medical battalion is responsible to the division trains commander for tactical training of the medical battalion. In combat, he is responsible to the trains commander for the discharge of tactical procedures which permit the trains commander to fulfill his command responsibilities. This includes primarily driver training and tactical instructions as pertain to security, liaison, communication and such other instructions as may affect the movement and security of the division trains.

(*b*) The battalion commander is responsible to the division commander for the technical operation of the second echelon medical service of the division.

(*c*) The medical battalion commander keeps the division surgeon informed of the status of medical support and medical supply, and makes early recommendations for use of supporting medical echelons.

(*d*) He maintains liaison always with the forward echelon of division headquarters and the combat command headquarters. The medical battalion commander usually establishes the battalion command post in the division trains area and maintains contact with necessary command echelons by liaison officers, radio, and messenger. This does not restrict the command post to any certain area. The command post is located where it can best perform its control functions and maintain necessary contact, liaison, and communication. The headquarters section has radio communication with the division administrative net (rear), the trains command net, and subordinate companies of the medical battalion.

(2) *Executive officer.* The executive officer acts for the battalion commander in his absence. This officer is responsible for coordinating the various training or combat activities of the battalion headquarters, carrying out the detailed planning and operations with other staff officers, supervision of proper execution of directives given to subordinate units of the battalion, controlling and directing the flow of information to other interested headquarters and to all elements of the medical battalion.

(3) *Adjutant (S–1).* The adjutant is responsible for the supervision of administrative matters, the custody and maintenance of records, requisitioning of personnel replacements for the battalion, and the usual details incident to the supervision of the battalion headquarters office.

(4) *Plans and training officer (S–3).* The battalion plans and training officer prepares detailed plans for the battalion

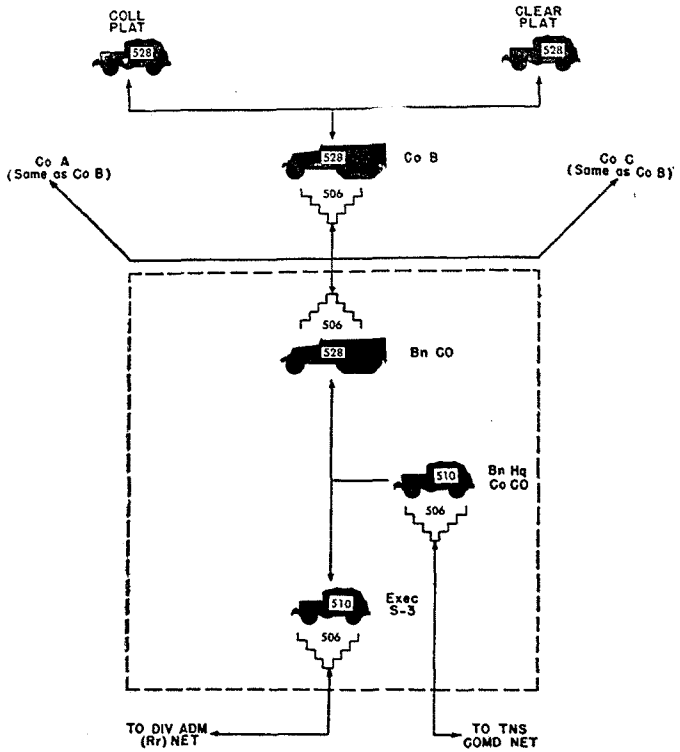


Figure 6. Radio communication, armored medical battalion.

based upon announced directives or decisions. This officer prepares maps, overlays, and written orders for the command, and maintains the operations map and preplans to meet possible future tactical situations. During training, this officer prepares master training schedules for the battalion, coordinates company and battalion training, and, under direction of the battalion commander, supervises training throughout the battalion.

(5) *Supply officer (S–4).* The headquarters and headquarters company commander is normally designated as battalion S–4 and division medical supply officer, and carries out these functions for the battalion commander. This officer is responsible for the procurement, storage, and issue of all types of supplies for the medical battalion, and for medical supplies for the entire division. Anticipation of all supply requirements is essential for an efficient supply service.

b. Administrative and personnel section. This section is responsible for the service records, pay rolls, officers' records, morning reports, the receipt and distribution of mail, and other records and reports pertaining to the battalion personnel. In combat, this section remains in the division trains area with the battalion command post. When the command post is removed from the trains area, this section remains with the headquarters company of the medical battalion.

23. **HEADQUARTERS COMPANY.** For details of organization, see T/O 8–76. The primary functions of this company are motor maintenance for the battalion, the procurement, storage, and distribution of all classes of supply for the battalion, and medical supply of the armored division.

a. Company headquarters. This headquarters consists of a command section, and an administrative, mess, and supply section. This company operates as a self-sufficient unit. The headquarters is included in the medical battalion command net (CW) and the group medical net (FM). (See fig. 3.)

b. Battalion maintenance platoon. The primary function of this platoon is second echelon motor maintenance for the medical battalion. Third echelon repair work is done by the ordnance maintenance battalion.

c. General and medical supply section. This section is

responsible for the procurement, storage, break-down, and issue of all supplies for the medical battalion, and of all medical supplies for the division.

(1) *Battalion supply.* This section procures and distributes battalion supplies to include fuel, lubricants, rations, and water. The method for distribution of these items of supply varies with the situation and with the division supply policy designated (see FM 17–50). Centralized distribution to the medical companies may be made or advanced distributing points may be established at the clearing station. Rations for the battalion may be drawn from a railhead or truck head at designated times (railhead distribution). This section then performs a break-down and delivery of rations, water, fuel, and lubricants to the companies. As an alternative, the medical companies may pick up these items of supply at distribution points designated by the battalion commander. The battalion supply officer anticipates the additional ration requirements of the medical companies to feed casualties being cared for in the clearing stations.

(2) *Division medical supply.* This section procures, stores, and issues all medical supplies for the division. For procedures, see FM 17–50.

24. **MEDICAL COMPANY.** For details of organization, see T/O 8–77. The armored medical battalion includes three medical companies organized and equipped to be self-contained. The primary function of the medical company is to assure prompt and continuous evacuation of forward medical units, and to render medical care to casualties evacuated. Each medical company consists of a headquarters, a collecting platoon, and a clearing platoon.

a. Company headquarters. This headquarters consists of a command section; a maintenance section; and an administrative, mess, and supply section.

(1) The command section includes the company commander and key communication personnel. The company

headquarters is included in the medical battalion command (CW) and in the group medical net (FM).

(2) The maintenance section includes mechanics and a light maintenance vehicle. The administrative, mess, and supply section is responsible for the preparation of pertinent records of sick and wounded, property exchange, medical supply, and the preparation of food for both company personnel and patients. When the clearing platoon is operating, the mess section is responsible for the preparation of hot drinks for the wounded.

b. Collecting platoon. (1) This platoon consists of a platoon headquarters and two identical collecting sections. The platoon headquarters is equipped with a radio-liaison vehicle included in the group medical net (FM). It is capable of contacting all division medical units within range.

(2) This vehicle normally operates forward from the clearing platoon, contacting the aid stations and controlling and directing the ambulances of the medical company to battalion aid stations and casualty collecting points in the forward areas.

(3) Ambulances of the collecting sections operate forward from the clearing station to evacuate battalion aid stations and casualty collecting points established by the medical detachments.

(4) Constant patrol and reconnaissance of ambulance routes are the functions of the section leaders of the collecting sections to assure liaison with the medical detachments and to maintain control of the separate ambulances.

(5) Litter bearers may be employed in conjunction with vehicles for the evacuation of battalion aid stations and casualty collecting points. They may take charge of the wounded at such installations pending evacuation to free aid station personnel for movement forward. Such litter bearers become liaison agents and transmit information through ambulance drivers regarding the location of casualty collecting points and battalion aid stations and the number of

casualties remaining to be evacuated. Litter bearers may also be used to evacuate medical detachments when ambulances cannot reach the battalion aid stations or casualty collecting points, either because of enemy fire or impassable terrain. In this event, litter bearers carry or guide casualties to a point accessible to the medical company ambulances.

c. Clearing platoon. (1) *Organization.* The clearing platoon consists of a platoon headquarters and a clearing section. The platoon headquarters is transported in a vehicle equipped with a radio set included in the group medical net (FM). Included in the transportation of the clearing section are two surgical units, each of which is a specially constructed operating room inclosed in a sheet metal panel body and mounted on a 2½-ton, 6 x 6, truck chassis. (See figs. 7 and 8 and TM 9–2800 and 9–801.)

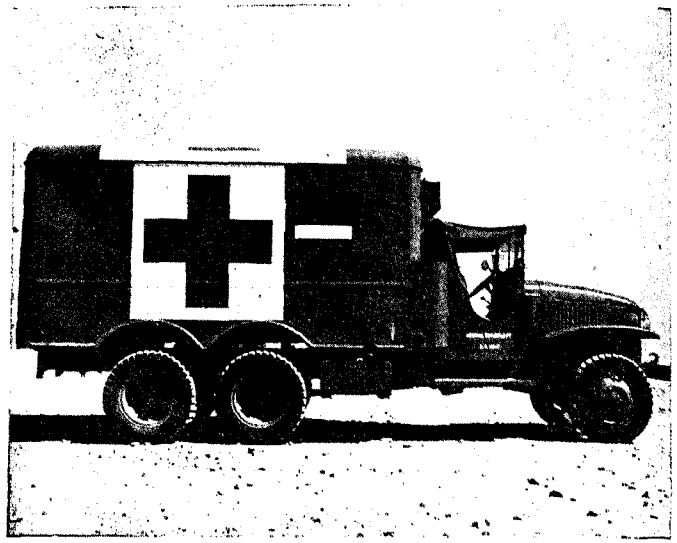


Figure 7. Surgical truck.

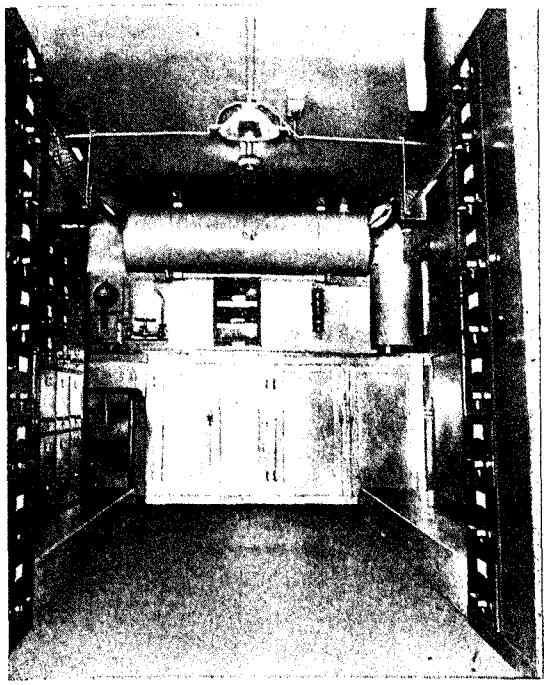


Figure 8. Interior of surgical truck.

(2) Each surgical unit contains an operating table with operating lights, cabinets for supplies, instruments and sterile dressings, hot water heater with boiler, a supply of cold water, a sterilizing unit and facilities for ventilation and heating. Electric power is furnished by a gasoline-operated generator. Each surgical unit includes a specially constructed blackout tent to provide additional space for the treatment of casualties. One surgical unit has in addition the necessary items of equipment to treat gas casualties. In the event of an enemy gas attack, this unit operates for the emergency treatment of systemic symptoms incident to toxic

gases and the emergency treatment of chemical burns. It is equipped to perform essential decontamination of personnel and equipment.

(3) *Functions and operation.* (*a*) This platoon is the nucleus of second echelon medical service in combat. The clearing station does not attempt surgical procedures better performed by specialized units of supporting medical elements. Its primary purpose is to perform emergency surgery, including amputation, to combat shock, to administer blood and plasma transfusions, tetanus toxoid, apply splints, and check dressings.

(*b*) Mobile medical supplies are maintained normally at this station by the division medical supply officer. Such medical supplies are intended for all medical troops in the forward area and may be delivered to them by any means available. The medical company commander is responsible that these medical supplies are moved forward with the clearing station.

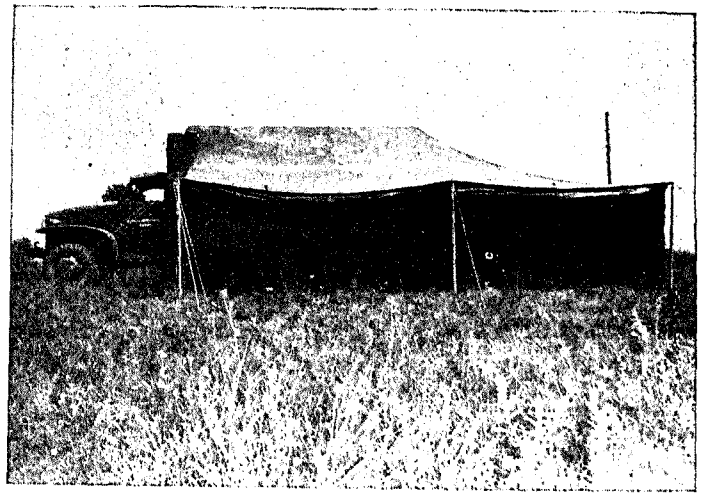


Figure 9. Surgical truck with blackout tent.

(*c*) Personnel of the clearing platoon headquarters records and maintains accurate data on casualties. Patients are sorted upon arrival. The slightly wounded are given necessary emergency medical treatment and returned to their units. Serious cases are prepared for further evacuation to the rear. When the station moves forward to maintain close support, one surgical unit may "leap-frog" the established station, provided the remaining unit is not needed for treatment of gas casualties (see (2) above). When the advance section is functioning in the new site, the rearmost unit upon being evacuated by the supporting higher echelon moves forward and the station is again complete.

(4) *Necessity for sorting casualties* (see FM 8–10). Prompt and accurate sorting of casualties upon their arrival at the clearing station is important. Efficiency in this function prevents confusion and assures that casualties are seg-

Figure 10. Blackout tent.

regated according to the severity and nature of their diseases or injuries.

(5) *Location and time of establishment* (see FM 8-10). The siting of clearing stations is a command decision dictated by the tactical situation. Clearing stations are located in close support of organizational medical detachments to assure prompt evacuation and treatment of casualties. Many factors are involved in the selection of its site. These include terrain, mission of the unit supported, road net, proximity to anticipated targets of enemy artillery or aircraft and the type of action anticipated, that is, attack, defense, or delaying action. Usually the clearing station is situated on the main axis of advance, consideration being given to the lines of drift of the wounded. Tactically, the best site is one which offers both cover and concealment. Emphasis is placed upon camouflage. The concealment of vehicles is important at all times. Such concealment is complete, as partial hiding invites further investigation by the enemy. Natural concealment is utilized before resorting to camouflage.

(6) The clearing station is not normally established until the course of the operation has been determined by the enemy reaction. The medical battalion commander, combat command surgeon, and supporting medical elements are always notified of any displacement or movement of the clearing station. Reconnaissance for future sites is essential prior to movement of the clearing station.

25. EVACUATION OF CLEARING STATION BY SUPPORTING MEDICAL ECHELON. An essential for the proper functioning of the clearing station is the ability to move on short notice. This capability is dependent upon whether the accumulated casualties are being promptly and continuously cleared from the clearing station by corps or army medical units. Constant liaison by the supporting medical unit is necessary to insure prompt evacuation of the clearing station. Liaison is established and maintained by the supporting medical unit charged with the evacuation of the medical company. Information concerning location of clearing stations, number of casualties to be evacuated, and anticipated moves is furnished the supporting units at all times through liaison personnel attached to the clearing station. As many as three separate clearing stations must be simultaneously evacuated.

CHAPTER 3

ARMORED DIVISION MEDICAL SERVICE IN COMBAT

26. GENERAL. This section covers the tactical employment of medical elements of the armored division and suggests a pattern of operating procedure rather than arbitrary methods of standardized employment. Since a medical company is included in the normal combat command grouping, the medical support of the combat command is fairly well standardized. The same applies equally to the medical detachments of the subordinate elements of the combat command. The tactical employment of these commands follows certain basic principles but their application cannot be standardized.

27. OFFENSIVE OPERATIONS. **a.** In the assembly position, medical detachments are readied and plans are made for the medical support of the coming operation. Axes of evacuation in the zone of action of the major attack element are normally announced in the division order. Sick and wounded are evacuated by the medical company attached to the combat command.

b. Supporting first echelon medical elements advance in the rear of advancing combat elements, evacuating casualties of immobilized vehicles, and assembling casualties at casualty collecting points or battalion aid stations at successive sites along the axis of evacuation. The medical battalion, by means of liaison previously established with first echelon medical units, evacuates casualties from casualty collecting points and battalion aid stations established along the axis

of evacuation to the clearing stations established by the medical companies.

28. MEDICAL SERVICE IN DEFENSE. **a.** Medical detachments establish centrally located battalion aid stations which may be augmented by personnel and ambulances from the medical company.

b. The clearing platoon is partially established in a central location. The medical battalion, being particularly vulnerable to air and ground attack, is secured by adjacent combat elements.

c. Clearing stations, when established, may obtain some protection by use of the Geneva Cross in marking the installation. Experience in any particular theater of operations dictates the advisability of such marking.

d. The distribution of forces in depth, as well as the possibility of enemy penetrations of the position, requires that medical installations be located generally farther to the rear than in the attack. If certain sectors are to be defended rigidly, the medical service of those sectors is planned accordingly.

e. Mobility of all medical units, particularly of those attached to elements used in the counterattack, is preserved. Medical service of outposts and other security detachments is obtained from the attached medical personnel of the unit defending this sector. In a large outpost, however, the medical service may be operated from a central control. In any case, the medical service may be reinforced by personnel and vehicles of the medical service which, upon termination of such duty, revert to control of the division medical service.

29. MEDICAL SERVICE IN RETROGRADE MOVEMENTS. Medical service of retrograde movements is particularly difficult for the medical detachment. The commander provides the surgeon with adequate means for the transportation of transportable casualties. The abandon-

ment of casualties and their subsequent capture by the enemy is a command decision. Appropriate recommendations are made by the surgeon concerned. In a retrograde movement, all vehicles which can be utilized and spared for the transportation of the sick and wounded are placed at the disposal of the unit surgeon. For a detailed discussion, see FM 8–10.

30. MEDICAL SERVICE IN SPECIAL OPERATIONS. In cases where armored units are employed, either independently or in conjunction with other troops, on special missions, the medical service is coordinated with the type of troops being employed and the mission to be accomplished. For further details of medical service in special operations, see FM 8–10.

CHAPTER 4

GENERAL AND SPECIAL TRAINING

Section I. GENERAL TRAINING

31. GENERAL. **a.** Training is covered in FM 21–5. Basic and technical training are as prescribed by pertinent directives of higher headquarters.

b. Tactical training emphasizes field service of medical units. Tactical exercises are planned and written to illustrate and practice correct principles of employment. They develop correct technique and effective service in medical troops. When other arms and services participate in a tactical exercise, they acquire confidence in medical troops.

c. Command post exercises which involve the employment of medical troops call for realistic procedures by all arms and services. Battalion aid stations and clearing stations are established and manned as if actual casualties were being handled. Normal battlefield procedures of sterilization, immunization, and treatment of wounds are carried out on simulated casualties. Communication and liaison receive the attention of all ranks. Realistic hazards and insecurity of all types of communication are introduced. See figure 11 for typical field exercise.

Section II. EVACUATION OF CASUALTIES FROM TANKS

32. GENERAL. The majority of tank crew casualties abandons its combat vehicles without assistance, many times with wounds of a serious nature. A small percentage of

699th ARMORED INFANTRY BATTALION

c/o Postmaster, Louisville, Ky.

1 May 1944

1. PURPOSE — The purpose of this exercise is to illustrate the principles and technique of employment of the medical detachment of the armored infantry battalion.

2. REFERENCES
a. Maps required: Hays School Range Map, 1:20,000.
b. Copy of this problem.

3. SITUATION
a. Enemy estimated in strength to be one infantry company with an antitank platoon attached have moved into positions north of HAYS SCHOOL.
b. This combat command attacks at 0730. This battalion leads the attack. The scheme of maneuver is to hold the enemy in position with Company A and the assault gun platoon while Company B outflanks the enemy's left flank. The mortar platoon will smoke the draw and the hill to the west. Company C remains in reserve.
c. The axis of maintenance and evacuation is Road 251.

4. REQUIREMENT
a. Reconnaissance and map study by the surgeon and recommendation for the site of the aid station.
b. Occupation of the aid station.
c. Treatment and processing of simulated casualties as found in the area.

Figure 11. A typical field exercise.

casualties must be extricated from the combat vehicle. All armored troops, particularly tank crews, are trained until proficient in the technique of the extrication of casualties from tanks.

33. BALANCE OF FACTORS INVOLVED (see fig. 12). **a.** The decision for the method and route to be used for the evacuation of casualties from an individual tank during combat is made after evaluating the primary factors influencing the procedure. These factors are of two categories: those which necessitate immediate abandonment of the tank, and those which require preliminary first aid to wounded personnel before extrication from the tank.

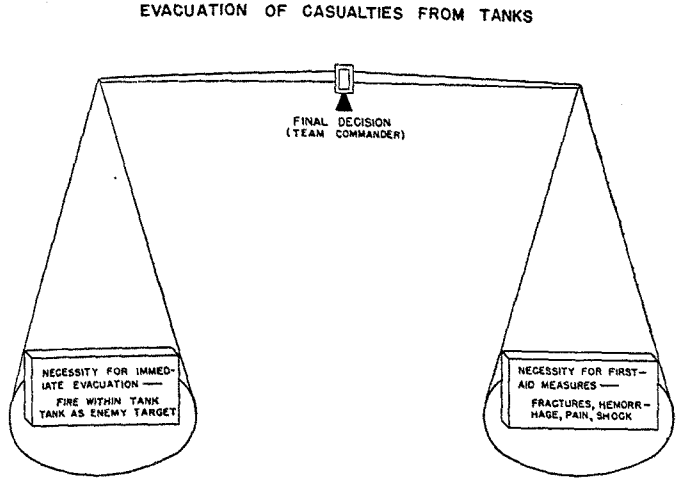


Figure 12. Balance of factors.

b. If the tank is afire or in a position where it is a vulnerable target for additional hostile fire, immediate abandonment of the tank by the crew is the rule. First-aid measures for the wounded are suspended until individual security is attained. Medical Department personnel usually are not immediately available and the tank crew evacuates itself. No first-aid measures can be applied in the tank nor can extricating appliances be used.

c. If the tank is able to continue on its mission, wounded crew members await arrival at a rallying point or a position of defilade before they are evacuated. Precautions in evacuation of wounded are important here. First-aid measures such as the control of hemorrhage, splinting of fractures,

① *Front.*

Figure 13. Pistol belt hitch.

② *Side.*

Figure 13. Pistol belt hitch—Continued.

③ *Rear.*

Figure 13. Pistol belt hitch—Continued.

① *Extra belt.*

Figure 13. Pistol belt hitch—Continued.

and the relief of pain by morphine or other drugs may be initiated prior to the removal of wounded personnel from the tank. The actual extrication of casualties may be accomplished with greater concern for the welfare of the individual.

d. *If a tank remains a vulnerable enemy target or if fire breaks out in the tank, abandon the tank immediately,* removing injured crew members by the best means available. The vehicular first-aid kit is removed for subsequent care of casualties. If the tank is secure from further hostile fire and if there is no danger of fire, *use all precautions in evacuating wounded from the tanks to prevent further injury to them.*

34. EVACUATION EQUIPMENT. **a.** Only standard articles of individual equipment are used to assist in the evacuation of casualties from tanks. These devices may be applied to the injured crew member to enable upward and lateral traction with a minimum of manhandling and compression of vital areas. The use of specially developed devices which cannot be improvised from the soldier's individual equipment is impractical.

b. It is more practical to extricate the casualty by means of his clothing or by traction upon the arms where no injuries to the arms exist. A harness is used where the nature and location of the wound so require. The harness illustrated, using four pistol belts, is the simplest and most efficient. A fifth pistol belt may be inserted beneath the two shoulder loops to assist in raising or lowering the casualty. (See fig. 13.)

35. MANUAL TRANSPORT OF WOUNDED (see FM 8–35). The movement of casualties without litters or other equipment is often necessary, particularly when tank crews evacuate wounded from their own tank, since no litter is available to the evacuation team. All tank crews are trained until proficient in the manual transport of the wounded, using one or more bearers.

36. METHODS OF CASUALTY REMOVAL. **a.** During combat, the fastest method of evacuating wounded from a tank is used. Modification of a single method is dictated by the position of the tank, the presence or absence of hostile fire, and the variation in location and accessibility of the openings in the tank.

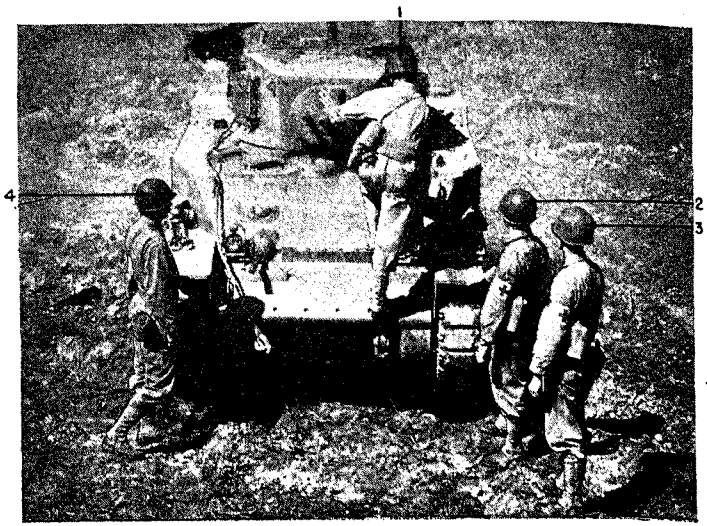
b. During combat the No. 1 man of the evacuation team decides whether extrication devices will be applied.

c. The drill outlined in the following paragraphs is intended for instructional use only. During combat, casualties are removed from tanks by the most expeditious method and are immediately placed in an area protected from hostile fire. When it is necessary to leave wounded in a tank during evacuation of other crew members, all hatches are closed.

37. ORGANIZATION FOR DRILL. **a.** An evacuation team consists of four men, designated Nos. 1, 2, 3, 4. No. 1 is designated as team commander.

b. Fall in (fig. 14). The team forms facing the tank, No. 1 taking position 4 paces in front of the left track. No. 2

Figure 14. Fall in.



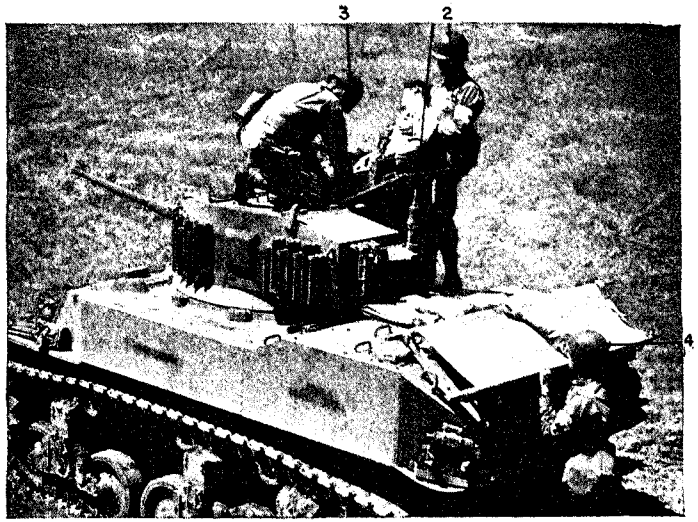


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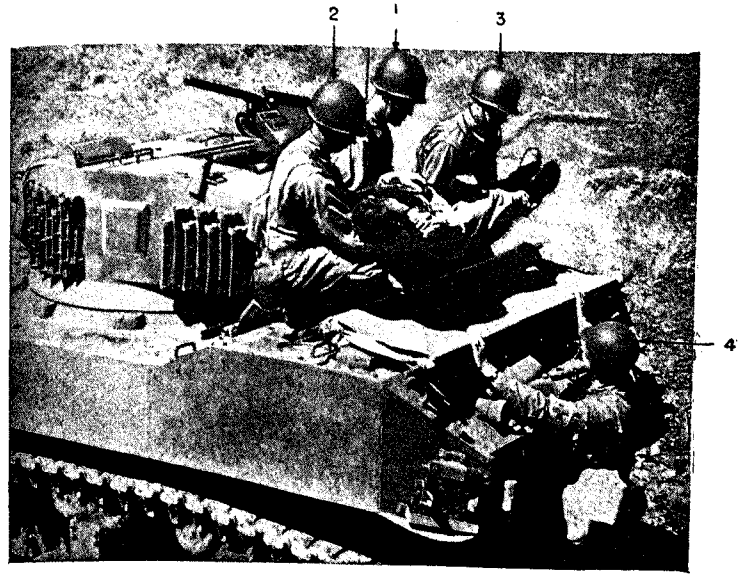
Figure 15. Light tank, M5 series. Evacuation of right turret compartment.



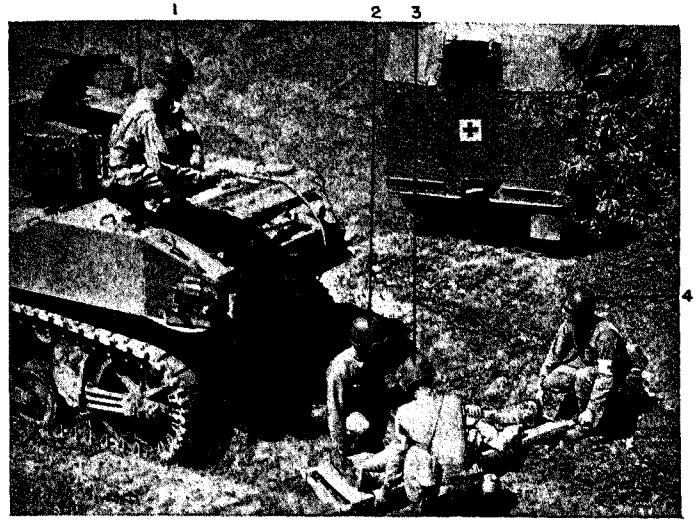


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Figure 15. Light tank, M5 series. Evacuation of right turret compartment —Continued.

takes position at normal interval to the left of No. 1. Nos. 3 and 4 take position as rear files of Nos. 1 and 2, respectively.

38. EVACUATION FROM LIGHT TANK, M5 SERIES.

a. The command is: EVACUATE RIGHT TURRET COMPARTMENT, PREPARE TO MOUNT, MOUNT (fig. 15). No. 1 mounts the tank from the front, calls "Friendly troops," and opens the right turret hatch. Nos. 2 and 3 mount the tank and take positions on the right and left sides of the turret, respectively. No. 4 opens the litter, places it on motor deck, and takes positions at the rear of the tank. No. 1, after opening the hatch, examines the gunner and applies the supporting sling, when necessary. He may have to enter the turret to do this. Nos. 1, 2, and 3 raise the casualty to a supported sitting position on the right side of the turret rim. By a left side carry (No. 3 at the feet, No. 1 supporting the buttocks and trunk, No. 2 supporting the head and shoulders) the casualty is placed upon the litter which is steadied by No. 4. No. 3 jumps to the ground and assists No. 4 in rotation of the head end of the litter so that only its foot end rests on the motor deck. No. 3 takes position at one side of the litter. No. 2 then takes position opposite No. 3 and Nos. 2, 3, and 4 lower the litter to the ground. No. 2 removes the supporting sling. The team then places the litter in a position of defilade designated by the team commander.

b. The command is: EVACUATE LEFT TURRET COMPARTMENT, PREPARE TO MOUNT, MOUNT (fig. 17). No. 1 mounts the tank in the prescribed manner, unlatches and opens the left turret hatch, examines the tank commander, and applies a supporting sling where necessary. Nos. 2 and 3 mount the tank and take positions to the right and left of the turret, respectively. No. 4 places the open litter on the motor deck and takes position to the rear of the tank. Nos. 1, 2, and 3 raise the casualty to a supported sitting position on the left side of the turret rim. Nos. 1, 2, and 3 lower the casualty to the

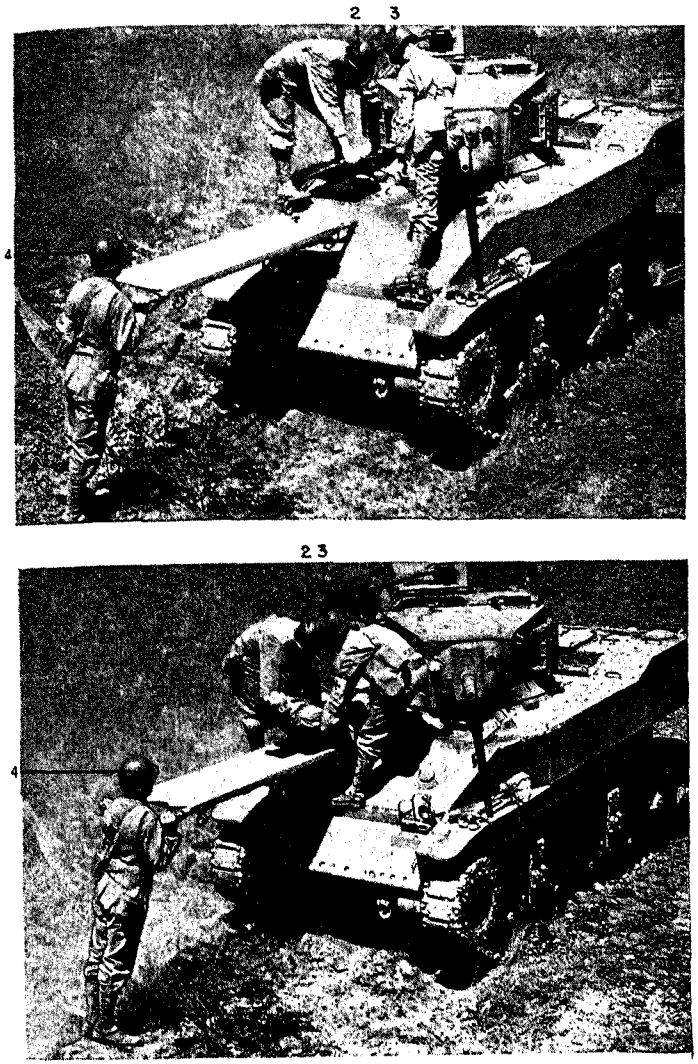


Figure 16. Evacuation of bow gunner's compartment.

litter by means of a right side carry (No. 3 supporting the head and shoulders, No. 1 the buttocks, No. 2 the feet). Nos. 2 and 3 jump to the ground and assist No. 4 in lowering the litter to the ground. No. 2 removes the supporting sling. The team then places the litter in a position of defilade designated by the team commander.

c. The command is: EVACUATE BOW GUNNER'S COMPARTMENT, PREPARE TO MOUNT, MOUNT (fig. 16). No. 1 mounts the tank and reenters the right turret compartment. Nos. 2 and 3 mount the tank and take positions to the right and left of the right front compartment, respectively. No. 2 opens the hatch and locks it. If the hatch is locked from within, it is opened by No. 1 from inside the tank. Where necessary, Nos. 2 and 3, assisted from inside the tank by No. 1, apply the supporting sling. No. 4 places one end of the open litter on the tank in front of the open hatch. Nos. 2 and 3 raise and rotate the casualty to a supported sitting position on the rim of the open port facing to the rear. The casualty is then placed upon the litter by Nos. 2 and 3, who jump to the ground and assist in lowering the litter to the ground. No. 2 removes the supporting sling. The team then places the litter in a position of defilade designated by the team commander.

d. The command is: EVACUATE DRIVER'S COMPARTMENT, PREPARE TO MOUNT, MOUNT (fig. 16). No. 1 enters the left turret compartment. Nos. 2 and 3 take positions to the right and left of the left front compartment, respectively. No. 4 places one end of the litter in front of the open hatch. The casualty is extricated, lowered to the ground, and placed in a defiladed position as in the previous drill.

39. EVACUATION OF MEDIUM TANK M4. **a.** The command is: EVACUATE TURRET, PREPARE TO MOUNT, MOUNT (fig. 17).

(1) No. 1 mounts the tank from the front, calls "Friendly troops" and opens the turret hatch. No. 1 examines the injured and prescribes the order of evacuation of the turret

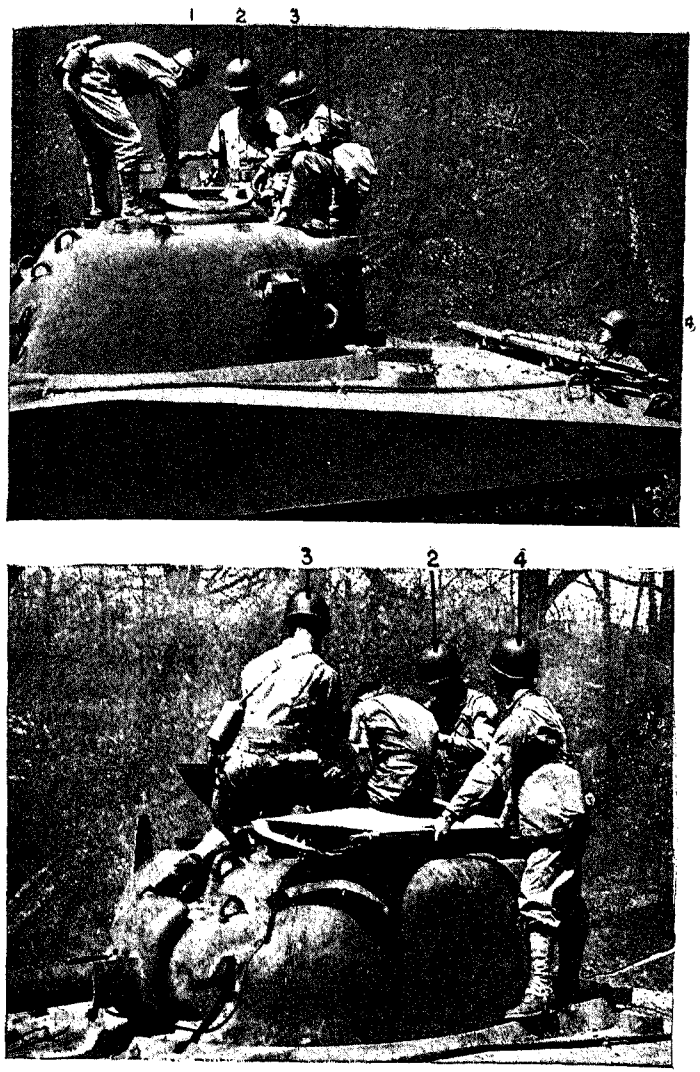
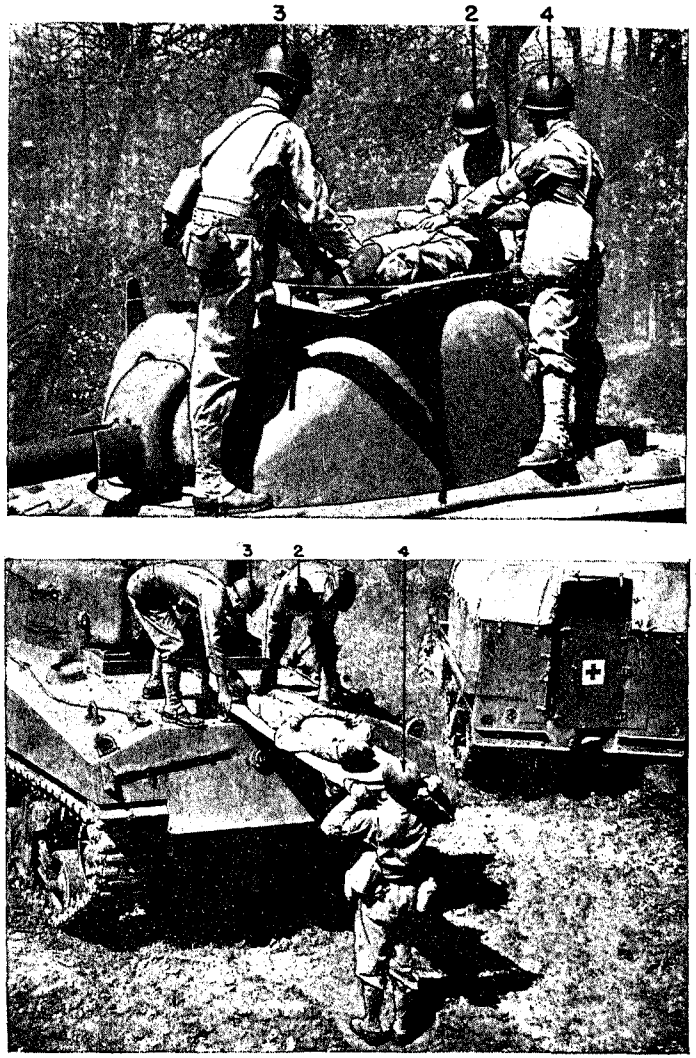


Figure 17. Medium tank M4. Evacuation of turret.



②

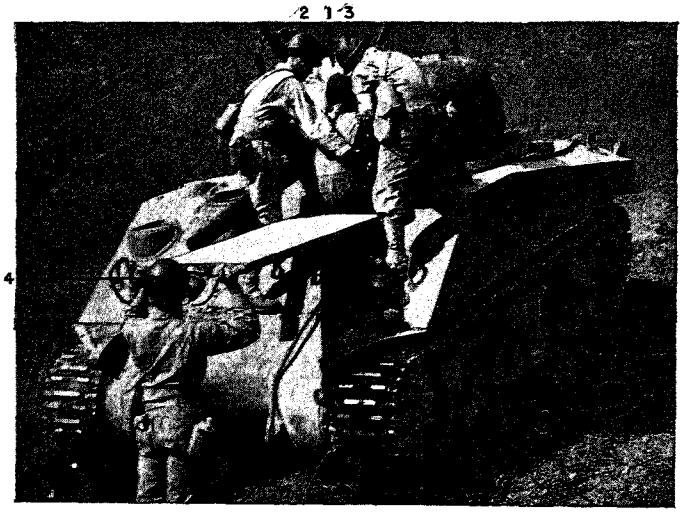
Figure 17. Medium tank M4. Evacuation of turret—Continued.

occupants. Nos. 2 and 3 mount the tank and take position on top of the tank to the right and left of the turret opening, respectively. No. 4 places the litter on the motor deck and mounts the tank from the front. He then places the litter on the turret to the left of the turret hatch. No. 1 applies the supporting sling to the casualty. Nos. 2 and 3, assisted by No. 1 inside the turret, raise the casualty to a supported sitting position on the litter. Nos. 2 and 3 then rotate and lower the casualty to the litter. Nos. 2, 3, and 4 lower the litter to the motor deck. No. 2 removes the supporting sling and passes it to No. 1 in the turret. Nos. 2, 3, and 4 then lower the litter to the ground as in drill for light tank. The team then places the litter in a position of defilade designated by the team commander.

(2) No. 1, meanwhile, applies the supporting sling to the next casualty to be evacuated. Nos. 2, 3, and 4 resume position and the procedure is repeated for each occupant of the turret.

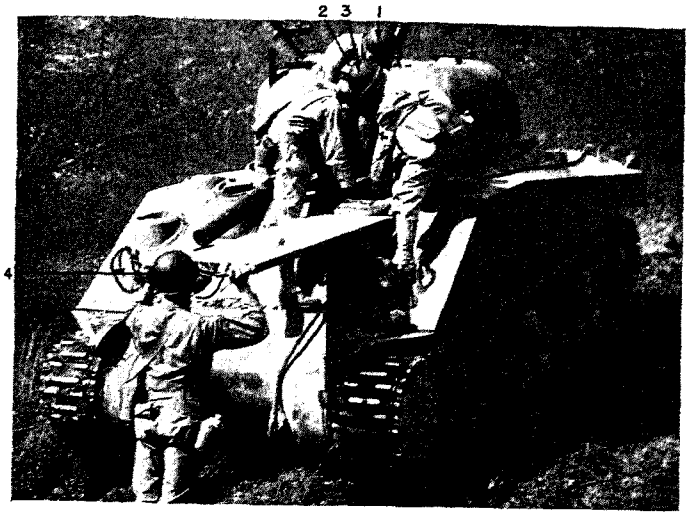
b. The command is: EVACUATE BOW GUNNER'S COMPARTMENT, PREPARE TO MOUNT, MOUNT (fig. 18). No. 1 mounts the tank from the front, depresses the 75-mm gun, and points it to the front. Nos. 2 and 3 mount and take position to the right and left of the bow compartment, respectively. No. 2 opens the hatch. Nos 2 and 3, assisted by No. 1, who has now taken position to the rear of No. 2, apply the supporting sling, where necessary, and remove the casualty from the tank in the same manner prescribed for the light tank. The casualty is lowered to the ground and placed in a protected area as in previous drills.

c. The command is: EVACUATE DRIVER'S COMPARTMENT, PREPARE TO MOUNT, MOUNT (fig. 18). Nos. 1, 2, and 3 mount the tank. Nos. 2 and 3 take positions to right and left of the driver's compartment, respectively. No. 1 takes position to the rear of No. 3. No. 2 opens and locks the hatch. The patient is removed and lowered to the ground as in previous drills.



①

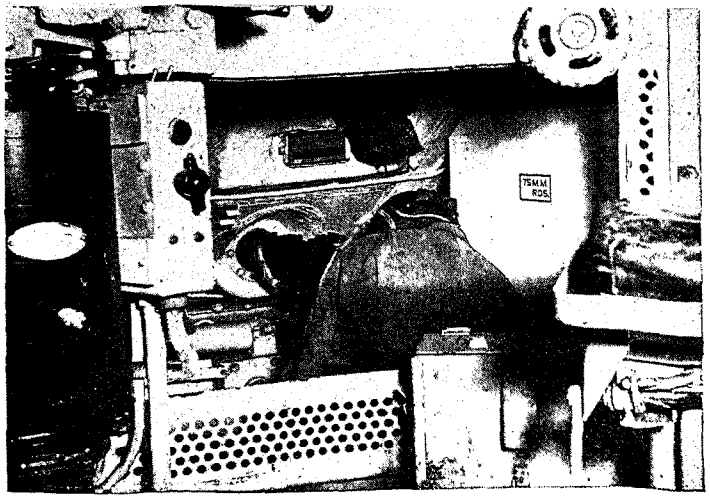
Figure 18. Evacuation of driver's compartment.



②

Figure 18. Evacuation of driver's compartment—Continued.

d. The command is: EVACUATE BOW GUNNER'S AND DRIVER'S COMPARTMENT THROUGH TURRET, PREPARE TO MOUNT, MOUNT (fig. 19). No. 1 mounts the tank in the prescribed manner, opens the turret, enters and rotates the turret so that the basket opening is opposite the driver's back. He elevates the breech of the 75-mm gun and removes all obstacles in the path of evacuation. No. 1 then enters the driver's compartment through the basket and takes position to the right of the driver. Nos. 2 and 3 mount the tank, No. 2 entering the turret, No. 3 remaining on top of the turret. No. 4 mounts the tank and places the open litter to the left of the turret opening. No. 1 applies the supporting sling to the driver, where necessary, after removal of the back of the driver's seat. No. 2, assisted by No. 1, removes the casualty into the turret compartment. Nos. 3 and 4 reach down into the turret opening, lift the casualty to a supported sitting position on the litter, rotate and lower the casualty to the



① *Position of bow gunner; basket is rotated so opening is behind wounded soldier.*

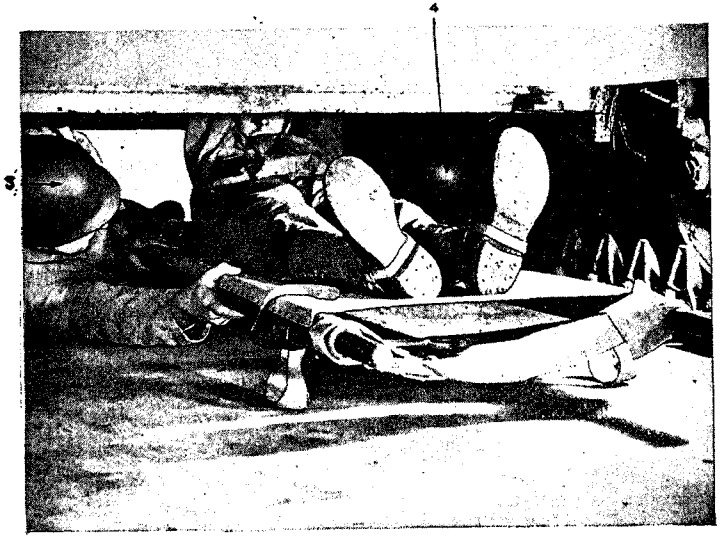
② *Position of driver; basket is rotated so opening is behind wounded soldier.*

Figure 19. Evacuation of bow gunner's and driver's compartment through turret.

litter. Nos. 2, 3, and 4 then place the litter on the motor deck, jump to the ground, and lower the litter to the ground as previously described. No. 2 removes the harness for use on the assistant driver. No. 1 reenters the turret compartment and rotates the turret so that the basket opening is opposite the assistant driver's seat. Nos. 2, 3, and 4 assume previous positions as for evacuation of driver. No. 2, after entering the turret, hands the supporting sling to No. 1, who then enters the driver's compartment, removes the back of the assistant driver's seat and applies the supporting sling. No. 2, assisted by No. 1, removes the casualty into the turret compartment. Nos. 3 and 4 grasp the supporting sling and elevate and place the casualty upon the litter. The litter is lowered to the ground, and the patient removed to a position of defilade as in previous drill.

e. The command is: EVACUATE THROUGH BOTTOM ESCAPE HATCH, PREPARE TO MOUNT, MOUNT (fig. 20). No. 1 mounts the tank in the prescribed manner and rotates the turret until the basket opening is opposite the seat of the bow gunner. No. 1 then enters the forward compartment, exposes and opens the escape hatch, allowing the door to fall to the ground. Nos. 3 and 4 from the front of the tank place an open litter on the ground beneath the opening of the floor escape hatch. No. 1 removes the back of the assistant driver's seat and gently lowers the assistant driver through the escape hatch on the litter placed beneath. Nos. 3 and 4 remove the casualty, placing the litter in a position of defilade. Nos. 3 and 4 resume their positions beneath the tank. Nos. 1 and 2 then lower the turret occupants directly from the turret through the floor escape hatch. This is accomplished either feet first or head first by jackknifing the casualty to minimize additional damage to him, except in case of fracture of the back or suspected fracture of the back. With an injury of this type the casualty is placed in a position of extreme extension (opposite of jackknifing) and evacuated through one of the other hatches. After evacuat-

① *By sliding soldier sidewise.*



② *By jackknifing wounded soldier.*

Figure 20. Evacuation through floor hatch.

ing the turret occupants, No. 2 rotates the turret until the basket opening is opposite the driver's seat. No. 2, assisted by No. 1, removes the driver into the turret compartment. No. 2 then rotates the turret until the basket opening is again opposite the assistant driver's seat. Nos. 1 and 2 lower the driver through the escape hatch to Nos. 3 and 4 below. All casualties are placed in a position of defilade immediately upon being removed from the tank.

Section III. USE OF EXPEDIENT AMBULANCE

40. GENERAL. Where the normal complement of ambulances in any organization is inadequate to transport casualties in battle, other vehicles are used as ambulance vehicles. (See FM 8–35.)

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